GenCore version 4.5
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OM protein - protein search, using sw model

Run on: October 28, 2000, 12:38:36 ; Search time 46.02 Seconds
(without alignments)
98.822 Million cell updates/sec

Title: US-09-157-984-1
Perfect score: 731
Sequence: 1 KANDFLHRGEYSVCDSEEHW.....RFIRINAACVCVLSRNSWRH 133

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 268485 seqs, 34193795 residues

Total number of hits satisfying chosen parameters: 268485

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_36:*
1: /cgn1_8/gcgdata/geneseq/geneseqp/AA1980.DAT:*
2: /cgn1_8/gcgdata/geneseq/geneseqp/AA1981.DAT:*
3: /cgn1_8/gcgdata/geneseq/geneseqp/AA1982.DAT:*
4: /cgn1_8/gcgdata/geneseq/geneseqp/AA1983.DAT:*
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7: /cgn1_8/gcgdata/geneseq/geneseqp/AA1986.DAT:*
8: /cgn1_8/gcgdata/geneseq/geneseqp/AA1987.DAT:*
9: /cgn1_8/gcgdata/geneseq/geneseqp/AA1988.DAT:*
10: /cgn1_8/gcgdata/geneseq/geneseqp/AA1989.DAT:*
11: /cgn1_8/gcgdata/geneseq/geneseqp/AA1990.DAT:*
12: /cgn1_8/gcgdata/geneseq/geneseqp/AA1991.DAT:*
13: /cgn1_8/gcgdata/geneseq/geneseqp/AA1992.DAT:*
14: /cgn1_8/gcgdata/geneseq/geneseqp/AA1993.DAT:*
15: /cgn1_8/gcgdata/geneseq/geneseqp/AA1994.DAT:*
16: /cgn1_8/gcgdata/geneseq/geneseqp/AA1995.DAT:*
17: /cgn1_8/gcgdata/geneseq/geneseqp/AA1996.DAT:*
18: /cgn1_8/gcgdata/geneseq/geneseqp/AA1997.DAT:*
19: /cgn1_8/gcgdata/geneseq/geneseqp/AA1998.DAT:*
20: /cgn1_8/gcgdata/geneseq/geneseqp/AA1999.DAT:*
21: /cgn1_8/gcgdata/geneseq/geneseqp/AA2000.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	429	58.7	286	16	R85441	Neurotrophin-6. X
2	383.5	52.5	120	13	R21868	Chimeric neurotrop
3	379.5	51.9	118	13	R29493	NGF, mouse. Mus m
4	379.5	51.9	120	13	R21863	Chimeric neurotrop
5	379.5	51.9	120	19	W48887	Mouse nerve growth
6	379.5	51.9	132	13	R21862	Chimeric neurotrop
7	379.5	51.9	307	5	P40036	Sequence encoded b
8	379.5	51.9	307	5	P40039	Sequence encoded b
9	379.5	51.9	307	14	R45240	Cloned mouse pre-p
10	377.5	51.6	120	13	R21864	Chimeric neurotrop
11	376.5	51.5	119	10	P90133	Human nerve growth
12	376.5	51.5	120	13	R21873	Chimeric neurotrop
13	372.5	51.0	120	13	R21866	Chimeric neurotrop
14	369.5	50.5	120	13	R21870	Chimeric neurotrop
15	368.5	50.4	118	10	P91034	Human nerve growth
16	368.5	50.4	119	5	P40040	Sequence encoded b
17	368.5	50.4	119	12	R13064	Human NGF HindIII-
18	368.5	50.4	119	16	R77420	Nerve growth facto
19	368.5	50.4	120	13	R21869	Chimeric neurotrop
20	368.5	50.4	120	20	W81117	Nerve growth facto
21	368.5	50.4	124	13	R21851	Chimeric neurotrop
22	368.5	50.4	129	14	R37539	Recombinant beta-N
23	368.5	50.4	129	18	W24145	Recombinant mini-f
24	368.5	50.4	154	13	R22751	Human growth hormo
25	368.5	50.4	222	21	W90884	Human proNGF prote
26	368.5	50.4	241	12	R13063	Human NGF SmaI-Apa
27	368.5	50.4	241	12	R11474	Human nerve growth
28	368.5	50.4	241	12	R13858	Human nerve growth
29	368.5	50.4	241	12	R13886	NGF with pro-regio
30	368.5	50.4	241	16	R77419	Human nerve growth
31	368.5	50.4	241	16	R66688	Human nerve growth
32	368.5	50.4	241	18	W26237	Human preproNGF.
33	368.5	50.4	241	19	W48886	Human prepro-nerve
34	368.5	50.4	241	20	Y07303	Human nerve growth
35	368.5	50.4	245	5	P40038	Sequence encoded b
36	368.5	50.4	261	10	P91299	Human nerve growth
37	368.5	50.4	262	7	P61033	Human beta-nerve g
38	368.5	50.4	307	14	R45241	Human pre-pro nerv
39	368.5	50.4	307	19	W69725	Human beta-nerve g
40	367.5	50.3	120	20	W81120	Nerve growth facto
41	367.5	50.3	307	14	R37799	Human NGF. Homo s
42	367	50.2	121	13	R21872	Chimeric neurotrop
43	365.5	50.0	120	15	R54084	Nerve growth facto
44	363.5	49.7	118	13	R21874	Chimeric neurotrop
45	363.5	49.7	262	12	R11740	Human growth hormo

ALIGNMENTS

RESULT 1
R85441
ID R85441 standard; Protein; 286 AA.
XX
AC R85441;
XX
DT 29-FEB-1996 (first entry)
XX
DE Neurotrophin-6.
XX
KW Neurotrophin-6; neurotrophic factor; Alzheimer disease;
KW Parkinson disease; swordfish.
XX
OS Xiphophorus helleri.
XX
FH Key Location/Qualifiers
FT Peptide 1..19
FT /label= Sig_peptide
FT Peptide 20..142
FT /label= Pro-peptide
FT Region 63..66
FT /label= Multi-basic_motif
FT Region 139..142
FT /label= Multi-basic_motif
FT Cleavage-site 142..143
FT Protein 143..286
FT /label= Mat_protein
XX
PN WO9526363-A1.
XX
PD 05-OCT-1995.
XX
PF 28-MAR-1995; 95WO-EP01157.
XX
PR 29-MAR-1994; 94EP-0104971.

XX
PA (PLAC) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN.
XX
PI Goetz RG, Lottspeich F, Schartl M, Thoenen H;
XX
DR WPI; 1995-351295/45.
DR N-PSDB; T05625.
XX
PT DNA encoding neurotrophin-6 - useful to diagnose and treat disorders
PT of the nervous system e.g. Alzheimer's, Parkinson's disease, etc
XX
PS Example 4; Page 50-52; 77pp; English.
XX
CC Swordfish neurotrophin-6 (R85441) is a new member of the
CC neurotrophin family useful for diagnosing and treating disorders
CC of the nervous system. Recombinant neurotrophin-6 can be
CC produced in prokaryotic or eukaryotic host cells using a cDNA
CC clone (T05625) isolated from a swordfish brain cDNA library.
XX
SQ Sequence 286 AA;

Query Match 58.7%; Score 429; DB 16; Length 286;
Best Local Similarity 63.0%; Pred. No. 5e-41;
Matches 85; Conservative 11; Mismatches 27; Indels 12; Gaps 4;

```
Qy       6 LHRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKP--- 62
           :|||||||||||   || | |:|||: ||||||| || :|| ||||:|||||||   |
Db     149 mhrgeysvcdsintwv-nktratdmsgnevtvlshvtvnnkvkkqlfyettcr--spthr 205

Qy      63 -----IGAPKPGQ-GVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFI 116
                ||    |: |  | | | | |||||: :|||:|||   :| ||| :| | |||||
Db     206 ssgiviggrsggrggkqgsktgnsgcrgidsrywnshctntdiyvsaltvfkeqtawrfi 265

Qy     117 RINAACVCVLSRNSW 131
           |||||||||||||||
Db     266 rinaacvcvlsrnsw 280
```

RESULT 2
R21868
ID R21868 standard; Protein; 120 AA.
XX
AC R21868;
XX
DT 10-JUN-1992 (first entry)
XX
DE Chimeric neurotrophic factor S6.

KW Human BDNF; brain derived neurotrophic factor; NGF;
KW neurotrophic growth factor; Alzheimer's disease; ageing;
KW peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW amyotrophic lateral sclerosis; nervous system disorders.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Peptide 1..50
FT /note= "mouse NGF residues 1-50"
FT Peptide 51..58
FT /note= "human BDNF residues 51-58"
FT Peptide 59..120
FT /note= "mouse NGF residues 59-120"
XX
PN WO9202620-A.
XX
PD 20-FEB-1992.
XX
PF 07-AUG-1991; 91WO-US05610.
XX
PR 08-AUG-1990; 90US-0564929.
XX
PA (REGE-) REGENERON PHARM INC.
XX
PI Shooter EM, Suter U, Ip N, Squinto SP, Furth ME, Lindsay RM;
PI Yancopoulous GD;
XX
DR WPI; 1992-080074/10.
XX
PT New chimeric neurotrophic factors - useful in treating nervous
PT conditions caused by trauma, surgery, ischaemia, infection,
PT metabolic diseases, nutritional deficiency, etc.
XX
PS Claim 29; Fig 10; 114pp; English.
XX
CC The sequence is that of a chimeric neurotrophic factor (NF) S6 which
CC comprises the mouse neurotrophic growth factor (NGF) residues 1-50,
CC human brain derived growth factor (hBNDF) residues 51-58 and mouse NGF
CC residues 59-120. It may provide the activity of 2 NFs in a single mol.
CC or may serve as a superagonist of an endogenous NF thereby enabling an
CC increased biological response at lower doses. It may also be useful in
CC targeting an active cpd. to cells responsive to NF. The design of
CC chimeric Nfs, such as S6, which retain specific biological activity
CC but which are directed to a subset of factor-responsive cells may
CC enable treatment of neurological disorders but avoid the complications
CC of more widespread activity of parent mols. It may be used in the
CC treatment to eliminate diseased cells, e.g. virus infected cells or
CC tumours of nervous system origin. It may also be used to treat patients
CC whose nervous system has been damaged by trauma, surgery, ischemia,
CC infection (e.g. polio or AIDS), metabolic disease, nutritional
CC deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
CC disease, ageing, peripheral neuropathies, Parkinson's disease,
CC Huntington's chorea or amyotrophic lateral sclerosis. S6 or antibodies
CC to it can also be used in the diagnosis and study of nervous system
CC disorders. See also R21851-R21874 and Q22080-Q22131.
XX
SQ Sequence 120 AA;

Query Match 52.5%; Score 383.5; DB 13; Length 120;
Best Local Similarity 57.1%; Pred. No. 2.5e-36;
Matches 72; Conservative 13; Mismatches 26; Indels 15; Gaps 1;

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Qy       7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
           | ||:|||||   |||: | |||::| |||||  | ||| | :| |||| || | |:
Db       8 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyfyetkcrasnpv--- 64

Qy      67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                   | |||||::|||||||  ||||:|||: : | |||||||: ||||||
Db      65 -----------esgcrgidskhwnsyctthtfvkalttdekqaawrfiridtacvcvl 112

Qy     127 SRNSWR 132
           || : |
Db     113 srkatr 118
```

RESULT 3
R29493
ID R29493 standard; Protein; 118 AA.
XX
AC R29493;
XX
DT 22-APR-1993 (first entry)
XX
DE NGF, mouse.
XX
KW Neurotrophin; NT; nerve growth factor; NGF;
KW brain-derived neurotrophic factor; BDNF.
XX
OS Mus musculus.
XX
PN WO9220365-A.
XX
PD 26-NOV-1992.
XX
PF 20-MAY-1992; 92WO-US04266.

XX
PR 21-MAY-1991; 91US-0703450.
PR 12-JUL-1991; 91US-0729253.
PR 23-JUL-1991; 91US-0734422.
PR 28-AUG-1991; 91US-0751356.
PR 20-SEP-1991; 91US-0762674.
PR 14-NOV-1991; 91US-0791924.
XX
PA (REGE-) REGENERON PHARM INC.
XX
PI Hallbook F, Ibanez Moliner CF, Persson HB, Yancopoulos GD;
XX
DR WPI; 1992-415468/50.
XX
PT Use of neurotrophin-4 for promoting growth and survival of nerve
PT cells - useful in treating neurological, fertility and
PT immunological disorders and in diagnosis
XX
[redacted] Disclosure; Page 105-106 + Fig 4B; 180pp; English.

[redacted] A comparison of the mature NT-4 protein (Xenopus) to the mature
CC NGF, BDNF, and NT-3 proteins from mouse revealed 51%, 60% and 58%
CC amino acid identity respectively. See sequences R29491 and
CC R29493-95.
XX
SQ Sequence 118 AA;

Query Match 51.9%; Score 379.5; DB 13; Length 118;
Best Local Similarity 56.3%; Pred. No. 6.9e-36;
Matches 71; Conservative 14; Mismatches 26; Indels 15; Gaps 1;

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Qy       7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
           | ||:|||||   |||: | |||::| |||||  | ||| | :| |:|| || | |:
Db       8 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 64

Qy      67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                  | |||||::|||||||  ||||:|||: : | |||||||: ||||||
Db      65 -----------esgcrgidskhwnsyctthtfvkalttdekqaawrfiridtacvcvl 112

Qy     127 SRNSWR 132
           || : |
Db     113 srkatr 118
```

RESULT 4
R21863
[redacted] R21863 standard; Protein; 120 AA.
XX
AC R21863;
XX
DT 10-JUN-1992 (first entry)
XX
DE Chimeric neurotrophic factor S1.
XX
KW Human BDNF; brain derived neurotrophic factor; NGF;
KW neurotrophic growth factor; Alzheimer's disease; ageing;
KW peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW amyotrophic lateral sclerosis; nervous system disorders.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Peptide 1..2
FT /note= "mouse NGF residues 1-2"
FT Peptide 3..9
FT /note= "human BDNF residues 1-7"
FT Peptide 20..120
FT /note= "mouse NGF residues 10-120"
XX
PN WO9202620-A.
XX
PD 20-FEB-1992.
XX
PF 07-AUG-1991; 91WO-US05610.
XX
PR 08-AUG-1990; 90US-0564929.
XX
PA (REGE-) REGENERON PHARM INC.
XX
PI Shooter EM, Suter U, Ip N, Squinto SP, Furth ME, Lindsay RM;
PI Yancopoulous GE;
XX
DR WPI; 1992-080074/10.
XX
PT New chimeric neurotrophic factors - useful in treating nervous
PT conditions caused by trauma, surgery, ischaemia, infection,
PT metabolic diseases, nutritional deficiency, etc.
XX
PS Claim 24; Fig 10; 114pp; English.
XX
CC The sequence is that of a chimeric neurotrophic factor (NF) S1 which
CC comprises the mouse neurotrophic growth factor (NGF) residues 1-2,
CC human brain derived growth factor (hBNDF) residues 1-7 and mouse NGF
CC residues 10-120. It may provide the activity of 2 NFs in a single mol.
CC or may serve as a superagonist of an endogenous NF thereby enabling an
CC increased biolcgical response at lower doses. It may also be useful in
CC targeting an active cpd. to cells responsive to NF. The design of
CC chimeric Nfs, such as S1, which retain specific biological activity
CC but which are directed to a subset of factor-responsive cells may
CC enable treatment of neurological disorders but avoid the complications
CC of more widespread activity of parent mols. It may be used in the
CC treatment to eliminate diseased cells, e.g. virus infected cells or
CC tumours of nervous system origin. It may also be used to treat patients
CC whose nervous system has been damaged by trauma, surgery, ischemia,
CC infection (e.g. polio or AIDS), metabolic disease, nutritional
CC deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
CC disease, ageing, peripheral neuropathies, Parkinson's disease,
CC Huntington's chorea or amyotrophic lateral sclerosis. S1 or antibodies
CC to it can also be used in the diagnosis and study of nervous system
CC disorders. See also R21851-R21874 and Q22080-Q22131.
XX
SQ Sequence 120 AA;

Query Match 51.9%; Score 379.5; DB 13; Length 120;
Best Local Similarity 55.4%; Pred. No. 7.1e-36;
Matches 72; Conservative 15; Mismatches 28; Indels 15; Gaps 1;

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Qy       3 NDFLHRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKP 62
             :|   |||:|||||   |||: | |||::| |||||  | ||| | :| |:|| || | |
Db       4 sdparrgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnp 63

Qy      63 IGAPKPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAAC 122
             :                | |||||::|||||||  ||||:|||: : | |||||||: ||
Db      64 v----------------esgcrgidskhwnsyctthtfvkalttdekqaawrfiridtac 108

Qy     123 VCVLSRNSWR 132
           |||||| : |
Db     109 vcvlsrkatr 118
```

RESULT 5
W48887
ID W48887 standard; Protein; 120 AA.
XX
AC W48887;
XX
DT 12-OCT-1998 (first entry)
XX
DE Mouse nerve growth factor.
XX
KW Neurotrophin; nerve growth factor; NGF; mouse; purification;
KW hydrophobic interaction chromatography.
XX
OS Mus sp.

```
XX
FH   Key             Location/Qualifiers
FT   Region          58..68
FT                   /note= "conserved Cys-containing region involved in
FT                          Cys knot motif"
FT   Region          108..110
FT                   /note= "conserved Cys-containing region involved in
FT                          Cys knot motif"
XX
PN   WO9821234-A2.
XX
PD   22-MAY-1998.
XX
PF   14-NOV-1997;   97WO-US21068.
XX
PR   29-MAY-1997;   97US-0047855.
PR   15-NOV-1996;   96US-0030838.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Beck JT,  Burton LE,  Schmelzer CH;
XX
DR   WPI; 1998-322333/28.
XX
PT   Isolation of neurotrophin(s) from, e.g. mis-folded or glycosylated
PT   variant(s) - using hydrophobic interaction chromatography,
PT   optionally in combination with high performance cation exchange
PT   chromatography
XX
PS   Disclosure; Page 36; 59pp; English.
XX
CC   This polypeptide comprises mouse nerve growth factor (NGF) mature
CC   polypeptide. Methods are provided for large-scale purification of
CC   neurotrophins, including mature NGF, suitable for clinical use.  A
CC   claimed method comprises: (1) separating the neurotrophin from the
CC   other proteins using a hydrophobic interaction chromatography resin
CC   (HICR); and optionally (2) separating the neurotrophin from a
CC   chemical variant by high performance cation exchange chromatography
CC   (HPCEC).  The processes can also be used for purification of e.g.
CC   human NGF (see W48886), brain-derived neurotrophic factor (see
CC   W48888), neurotrophin-4/5 (see W48890) and neurotrophin-3 (see
CC   W48889).  The processes allow separation of neurotrophins from
CC   various undesirable misprocessed, misfolded, size, glycosylated or
CC   charge forms.  They allow selective separation from variants and
CC   other molecules, and from other polypeptides with high pI.  The
CC   processes are applicable to starting materials from various
CC   sources, including fermentation broths or lysed bacterial or
CC   mammalian cells.
XX
SQ   Sequence   120 AA;

  Query Match             51.9%;  Score 379.5;  DB 19;  Length 120;
  Best Local Similarity   56.3%;  Pred. No. 7.1e-36;
  Matches   71;  Conservative   14;  Mismatches   26;  Indels   15;  Gaps    1;

Qy       7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
           | ||:|||||   |||: | |||::| |||||  | ||| | :| |:|| || | |:
Db       8 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 64

Qy      67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                   | |||||::|||||||  ||||:|||: : | ||||||||: ||||||
Db      65 -----------esgcrgidskhwnsyctttht fvkalttdekqaawrfiridtacvcvl 112

Qy     127 SRNSWR 132
             || : |
Db     113 srkatr 118


RESULT   6
R21862
ID   R21862 standard; Protein; 132 AA.
XX
AC   R21862;
XX
DT   10-JUN-1992  (first entry)
XX
DE   Chimeric neurotrophic factor NM1.
XX
KW   Human BDNF; brain derived neurotrophic factor; NGF;
KW   neurotrophic growth factor; Alzheimer's disease; ageing;
KW   peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW   amyotrophic lateral sclerosis; nervous system disorders.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..4
FT                   /note= "mouse NGF preprosequence"
FT   Peptide         5..122
FT                   /note= "mouse NGF residues 1-118"
FT   Peptide         123..132
FT                   /note= "10 amino acid antigenic peptide fragment
FT                          of human myc protein"
XX
PN   WO9202620-A.
XX
PD   20-FEB-1992.
XX
PF   07-AUG-1991;   91WO-US05610.
XX
PR   08-AUG-1990;   90US-0564929.
XX
PA   (REGE-) REGENERON PHARM INC.
XX
PI   Shooter EM,  Suter U,  Ip N,  Squinto SP,  Furth ME,  Lindsay RM;
PI   Yancopoulous GD;
XX
DR   WPI; 1992-080074/10.
XX
PT   New chimeric neurotrophic factors - useful in treating nervous
PT   conditions caused by trauma, surgery, ischaemia, infection,
PT   metabolic diseases, nutritional deficiency, etc.
XX
PS   Claim 46; Fig 5; 114pp; English.
XX
CC   The sequence is that of a chimeric neurotrophic factor (NF) NM1 which
CC   comprises the preprosequence of mouse neurotrophic growth factor (NGF),
CC   residues 1-118 of mouse NGF and a 10 amino acid antigenic peptide
CC   fragment of human myc protein. It may provide the activity of 2 NFs
CC   in a single mol. or may serve as a superagonist of an endogenous NF
CC   thereby enabling an increased biological response at lower doses. It
CC   may also be useful in targeting an active cpd. to cells responsive to
CC   NF. The design of chimeric Nfs, such as NM1, which retain specific
CC   biological activity but which are directed to a subset of factor-
CC   responsive cells may enable treatment of neurological disorders but
CC   avoid the complications of more widespread activity of parent mols.
CC   It may be used in the treatment to eliminate diseased cells, e.g.
CC   virus infected cells or tumours of nervous system origin. It may also
CC   be used to treat patients whose nervous system has been damaged by
CC   trauma, surgery, ischemia, infection (e.g. polio or AIDS), metabolic
CC   disease, nutritional deficiency, malignancy or toxic agents. Also to
CC   treat e.g. Alzheimer's disease, ageing, peripheral neuropathies,
CC   Parkinson's disease, Huntington's chorea or amyotrophic lateral
CC   sclerosis. NM1 or antibodies to it can also be used in the diagnosis
CC   and study of nervous system disorders. See also R21851-R21874 and
CC   Q22080-Q22131.
XX
SQ   Sequence   132 AA;

  Query Match             51.9%;  Score 379.5;  DB 13;  Length 132;
  Best Local Similarity   56.3%;  Pred. No. 8e-36;
  Matches   71;  Conservative   14;  Mismatches   26;  Indels   15;  Gaps    1;

Qy       7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
```

```
          | ||:|||||   |||: | |||::| |||||  | ||| | :| |:|| || | |:
Db     12 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 68

Qy     67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                  | |||||::|||||||  ||||:|||: : | |||||||: ||||||
Db     69 -----------esgcrgidskhwnsyctttht fvkalttdekqaawrfiridtacvcvl 116

Qy    127 SRNSWR 132
           || : |
Db    117 srkatr 122


RESULT   7
P40036
ID   P40036 standard; Protein; 307 AA.
XX
AC   P40036;
XX
DT   25-JAN-1992  (first entry)
XX
DE   Sequence encoded by the human beta-nerve growth factor (NGF) gene
DE   and flanking regions on phage lambda h-beta-N8.
XX
KW   Nerve damage; therapy.
XX
OS   Homo sapiens.
XX
PN   EP121338-A.
XX
PD   10-OCT-1984.
XX
PF   02-MAR-1984;   84EP-0301377.
XX
PR   03-MAR-1983;   83US-0471962.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Gray AM,  Ullrich A;
XX
DR   WPI; 1984-251909/41.
DR   N-PSDB; N40031.
XX
PT   Human beta-nerve growth factor free from other proteins - obtd.
PT   by recombinant DNA techniques for treating nerve damage
XX
PS   Example; Fig 2; 42pp; English.
XX
CC   The inventors claim human beta-nerve growth factor (NGF) free from
CC   other proteins of human origin. Also claimed are the DNA sequence
CC   encoding human beta-NGF operably linked with a DNA sequence capable
CC   of effecting its expression in a recombinant host cell; a replicable
CC   expression vector contg. the DNA; and host cells transformed with
CC   the vector. The plasmid claimed is plasmid ph-beta-NGF trp 1. Using
CC   the plasmid, larger amounts of pure beta-NGF are obtainable than by
CC   extn. of natural materials, see e.g. EP--2139.
XX
SQ   Sequence   307 AA;

  Query Match             51.9%;  Score 379.5;  DB 5;  Length 307;
  Best Local Similarity   56.3%;  Pred. No. 2.4e-35;
  Matches   71;  Conservative   14;  Mismatches   26;  Indels   15;  Gaps    1;

- Qy      7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
             | ||:|||||   |||: | |||::| |||||  | ||| | :| |:|| || | |:
  Db    195 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 251

  Qy     67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                    | |||||::|||||||  ||||:|||: : | |||||||: ||||||
  Db    252 -----------esgcrgidskhwnsyctttht fvkalttdekqaawrfiridtacvcvl 299

  Qy    127 SRNSWR 132
             || : |
```

```
Db    300 srkatr 305


RESULT   8
P40039
ID   P40039 standard; Protein; 307 AA.
XX
AC   P40039;
XX
DT   25-JAN-1992  (first entry)
XX
DE   Sequence encoded by human prepro-beta-nerve growth factor
DE   (NGF) gene.
XX
KW   Nerve damage; therapy.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..187
FT                   /label= signal
FT   Protein         188..307
XX
PN   EP121338-A.
XX
PD   10-OCT-1984.
XX
PF   02-MAR-1984;   84EP-0301377.
XX
PR   03-MAR-1983;   83US-0471962.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Gray AM,  Ullrich A;
XX
DR   WPI; 1984-251909/41.
DR   N-PSDB; N40034.
XX
PT   Human beta-nerve growth factor free from other proteins - obtd.
PT   by recombinant DNA techniques for treating nerve damage
XX
PS   Example; Fig 6; 42pp; English.
XX
CC   The inventors claim human beta-nerve growth factor (NGF) free from
CC   other proteins of human origin. Also claimed are the DNA sequence
CC   encoding human beta-NGF operably linked with a DNA sequence capable
CC   of effecting its expression in a recombinant host cell; a replicable
CC   expression vector contg. the DNA; and host cells transformed with
CC   the vector. The plasmid claimed is plasmid ph-beta-NGF trp 1. Using
CC   the plasmid, larger amounts of pure beta-NGF are obtainable than by
CC   extn. of natural materials, see e.g. EP--2139.
XX
SQ   Sequence   307 AA;

  Query Match             51.9%;  Score 379.5;  DB 5;  Length 307;
  Best Local Similarity   56.3%;  Pred. No. 2.4e-35;
  Matches   71;  Conservative   14;  Mismatches   26;  Indels   15;  Gaps    1;

  Qy      7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
             | ||:|||||   |||: | |||::| |||||  | ||| | :| |:|| || | |:
  Db    195 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 251

  Qy     67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                    | |||||::|||||||  ||||:|||: : | |||||||: ||||||
  Db    252 -----------esgcrgidskhwnsyctttht fvkalttdekqaawrfiridtacvcvl 299

  Qy    127 SRNSWR 132
             || : |
  Db    300 srkatr 305


RESULT   9
```

```
R45240
ID   R45240 standard; Protein; 307 AA.
XX
AC   R45240;
XX
DT   20-JUN-1994  (first entry)
XX
DE   Cloned mouse pre-pro nerve growth factor.
XX
KW   Mature human; beta-nerve growth factor; mouse; pre-pro portion;
KW   expression; NGF; hNGF; treatment; Alzheimer's Disease; murine.
XX
OS   Mus musculus.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..187
FT                   /note= "signal peptide"
FT   Peptide         188..307
FT                   /note= "mature peptide"
XX
PN   US5272063-A.
XX
PD   21-DEC-1993.
XX
PF   20-JUN-1989;    89US-0383118.
XX
PR   22-NOV-1988;    88US-0274878.
PR   20-JUL-1989;    89US-0383118.
XX
PA   (SYNT ) SYNTEX USA INC.
XX
PI   Baecker PA,  Barnett JW,  Bursztyn-Pettegrew H,  Chan HW,  Nguyen BT;
PI   Ward C;
XX
DR   WPI; 1993-413401/51.
DR   N-PSDB; Q54282.
XX
PT   Prodn. of active mature human beta-nerve growth factor in insect
PT   cells - using baculovirus expression system, and potential use of
PT   recombinant hNGF in treatment of Alzheimer's disease
XX
PS   Disclosure; Fig 1; 23pp; English.
XX
CC   The sequence is that of mouse pre-pro nerve growth factor
CC   which was used in a method of producing biologically active
CC   mature human beta-nerve growth factor in insect cells.
XX
SQ   Sequence   307 AA;
```

```
  Query Match             51.9%;  Score 379.5;  DB 14;  Length 307;
  Best Local Similarity   56.3%;  Pred. No. 2.4e-35;
  Matches   71;  Conservative   14;  Mismatches   26;  Indels   15;  Gaps    1;

Qy       7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
           | ||:|||||   |||: | |||::| |||||  | ||| | :| |:|| || | |:
Db     195 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 251

Qy      67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                    | ||||||::|||||||  ||||:|||: : | |||||||: ||||||
Db     252 -----------esgcrgidskhwnsyctttht fvkalttdekqaawrfiridtacvcvl 299

Qy     127 SRNSWR 132
           || : |
Db     300 srkatr 305
```

```
RESULT  10
R21864
ID   R21864 standard; Protein; 120 AA.
XX
AC   R21864;
XX
DT   10-JUN-1992  (first entry)
XX
DE   Chimeric neurotrophic factor S2.
XX
KW   Human BDNF; brain derived neurotrophic factor; NGF;
KW   neurotrophic growth factor; Alzheimer's disease; ageing;
KW   peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW   amyotrophic lateral sclerosis; nervous system disorders.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..9
FT                   /note= "mouse NGF residues 1-9"
FT   Peptide         10..22
FT                   /note= "human BDNF residues 8-20"
FT   Peptide         23..120
FT                   /note= "mouse NGF residues 23-120"
XX
PN   WO9202620-A.
XX
PD   20-FEB-1992.
XX
PF   07-AUG-1991;    91WO-US05610.
XX
PR   08-AUG-1990;    90US-0564929.
XX
PA   (REGE-) REGENERON PHARM INC.
XX
PI   Shooter EM,  Suter U,  Ip N,  Squinto SP,  Furth ME,  Lindsay RM;
PI   Yancopoulous GD;
XX
DR   WPI; 1992-080074/10.
XX
PT   New chimeric neurotrophic factors - useful in treating nervous
PT   conditions caused by trauma, surgery, ischaemia, infection,
PT   metabolic diseases, nutritional deficiency, etc.
XX
PS   Claim 25; Fig 10; 114pp; English.
XX
CC   The sequence is that of a chimeric neurotrophic factor (NF) S2 which
CC   comprises the mouse neurotrophic growth factor (NGF) residues 1-9,
CC   human brain derived growth factor (hBNDF) residues 8-20 and mouse NGF
CC   residues 23-120. It may provide the activity of 2 NFs in a single mol.
CC   or may serve as a superagonist of an endogenous NF thereby enabling an
CC   increased biological response at lower doses. It may also be useful in
CC   targeting an active cpd. to cells responsive to NF. The design of
CC   chimeric Nfs, such as S2, which retain specific biological activity
CC   but which are directed to a subset of factor-responsive cells may
CC   enable treatment of neurological disorders but avoid the complications
CC   of more widespread activity of parent mols. It may be used in the
CC   treatment to eliminate diseased cells, e.g. virus infected cells or
CC   tumours of nervous system origin. It may also be used to treat patients
CC   whose nervous system has been damaged by trauma, surgery, ischemia,
CC   infection (e.g. polio or AIDS), metabolic disease, nutritional
CC   deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
CC   disease, ageing, peripheral neuropathies, Parkinson's disease,
CC   Huntington's chorea or amyotrophic lateral sclerosis. S2 or antibodies
CC   to it can also be used in the diagnosis and study of nervous system
CC   disorders. See also R21851-R21874 and Q22080-Q22131.
XX
SQ   Sequence   120 AA;
```

```
  Query Match             51.6%;  Score 377.5;  DB 13;  Length 120;
  Best Local Similarity   56.3%;  Pred. No. 1.2e-35;
  Matches   71;  Conservative   13;  Mismatches   27;  Indels   15;  Gaps    1;

Qy       7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
           | || |||||   |||: | |||::| |||||  | ||| | :| |:|| || | |:
Db       8 hmgelsvcds:sewvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 64

Qy      67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
```

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                  ||  |||||::|||||||  ||||:|||: : | |||||||: ||||||
Db     65 -----------esgcrgidskhwnsyctttht fvkalttdekqaawrfiridtacvcvl 112

Qy    127 SRNSWR 132
          || : |
Db    113 srkatr 118
```

RESULT 11
P90133
ID P90133 standard; protein; 119 AA.
XX
AC P90133;
XX
DT 01-NOV-1989 (first entry)
XX
DE Human nerve growth factor derivative where amino acids 37 and
DE 39 are both Thr.
XX
KW Human nerve growth factor; fusion protein; growth factor;
KW recombinant vector.
XX
OS Homo sapiens (Human).
XX
PN JP01144981-A.
XX
PD 07-JUN-1989.
XX
PF 02-DEC-1987; 87JP-0304937.
XX
PR 02-DEC-1987; 87JP-0304937.
XX
PA (WAKU) WAKUNGA SEIYAKU KK.
XX
DR WPI; 1989-209284/29.
DR N-PSDB; N90269, N90273.
XX
PT Recombinant vector contg. fusion protein
PT - consisting of human growth hormone or deriv. ligated
PT to foreign protein, for stability and high yield.
XX
PS Disclosure; fig 8; 19pp; Japanese.
XX
CC Human nerve growth factor deriv. (see N90273), where
CC amino acids 37 and 39 are both Thr. The invention consists of a
CC vector contg. a fusion protein which is formed by ligating,
CC downstream of a promoter, human growth hormone or a deriv.
CC (see N90269) and a foreign protein. Stability of the vector
CC in the host is greatly increased so the protein
CC yield is higher.
XX
SQ Sequence 119 AA;

```
  Query Match           51.5%;  Score 376.5;  DB 10;  Length 119;
  Best Local Similarity  55.0%;  Pred. No. 1.5e-35;
  Matches  72;  Conservative  14;  Mismatches  30;  Indels  15;  Gaps  1;

Qy      2 ANDFLHRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSK 61
            ::   ||||:|||||   |||: | |||::| |||||  | ||| | || |:|| ||
Db      4 shpifhrgefsvcdsvsvwvgdkttatdikgkevtvlgevninnsvfkqyffetkcrdpn 63

Qy     62 PIGAPKPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAA 121
           |:               | |||||::|||||||  ||||:|||:   | |||||||: |
Db     64 pv---------------dsgcrgidskhwnsyctttht fvkalttdgkqaawrfiridta 108

Qy    122 CVCVLSRNSWR 132
          ||||||| : |
Db    109 cvcvlsrkavr 119
```

RESULT 12
R21873
ID R21873 standard; Protein; 120 AA.
XX
AC R21873;
XX
DT 10-JUN-1992 (first entry)
XX
DE Chimeric neurotrophic factor S11.
XX
KW Human BDNF; brain derived neurotrophic factor; NGF;
KW neurotrophic growth factor; Alzheimer's disease; ageing;
KW peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW amyotrophic lateral sclerosis; nervous system disorders.
XX
OS Homo sapiens.
XX
FH Key   Location/Qualifiers
FT Peptide   1..101
FT   /note= "mouse NGF residues 1-101"
FT Peptide   102..110
FT   /note= "human BDNF residues 103-111"
FT Peptide   111..120
FT   /note= "mouse NGF residues 111-120"
XX
PN WO9202620-A.
XX
PD 20-FEB-1992.
XX
PF 07-AUG-1991; 91WO-US05610.
XX
PR 08-AUG-1990; 90US-0564929.
XX
PA (REGE-) REGENERON PHARM INC.
XX
PI Shooter EM, Suter U, Ip N, Squinto SP, Furth ME, Lindsay RM;
PI Yancopoulous GD;
XX
DR WPI; 1992-080074/10.
XX
PT New chimeric neurotrophic factors - useful in treating nervous
PT conditions caused by trauma, surgery, ischaemia, infection,
PT metabolic diseases, nutritional deficiency, etc.
XX
PS Claim 34; Fig 10; 114pp; English.
XX
CC The sequence is that of a chimeric neurotrophic factor (NF) S11 which
CC comprises the mouse neurotrophic growth factor (NGF) residues 1-101,
CC human brain derived growth factor (hBNDF) residues 103-111 and mouse NGF
CC residues 111-120. It may provide the activity of 2 NFs in a single mol.
CC or may serve as a superagonist of an endogenous NF thereby enabling an
CC increased biolcgical response at lower doses. It may also be useful in
CC targeting an active cpd. to cells responsive to NF. The design of
CC chimeric Nfs, such as S11, which retain specific biological activity
CC but which are directed to a subset of factor-responsive cells may
CC enable treatment of neurological disorders but avoid the complications
CC of more widespread activity of parent mols. It may be used in the
CC treatment to eliminate diseased cells, e.g. virus infected cells or
CC tumours of nervous system origin. It may also be used to treat patients
CC whose nervous system has been damaged by trauma, surgery, ischemia,
CC infection (e.g. polio or AIDS), metabolic disease, nutritional
CC deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
CC disease, ageing, peripheral neuropathies, Parkinson's disease,
CC Huntington's chorea or amyotrophic lateral sclerosis. S11 or antibodies
CC to it can also be used in the diagnosis and study of nervous system
CC disorders. See also R21851-R21874 and Q22080-Q22131.
XX
SQ Sequence 120 AA;

```
  Query Match           51.5%;  Score 376.5;  DB 13;  Length 120;
  Best Local Similarity  55.6%;  Pred. No. 1.6e-35;
  Matches  70;  Conservative  15;  Mismatches  26;  Indels  15;  Gaps  1;

Qy      7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
```

```
          | ||:|||||  |||: | |||::| |||||  | ||| | :| |:|| || | |:
Db      8 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 64

Qy     67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                    | |||||::|||||||  ||||:|||: : | |||||||: :||||||
Db     65 -----------esgcrgidskhwnsyctttht fvkalttdekqaawrfiridtscvcvl 112

Qy    127 SRNSWR 132
           || : |
Db    113 srkatr 118


RESULT  13
R21866
ID   R21866 standard; Protein; 120 AA.
XX
AC   R21866;
XX
DT   10-JUN-1992  (first entry)
XX
DE   Chimeric neurotrophic factor S4.
XX
KW   Human BDNF; brain derived neurotrophic factor; NGF;
KW   neurotrophic growth factor; Alzheimer's disease; ageing;
KW   peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW   amyotrophic lateral sclerosis; nervous system disorders.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..33
FT                   /note= "mouse NGF residues 1-33"
FT   Peptide         34..42
FT                   /note= "human BDNF residues 34-42"
FT   Peptide         43..120
FT                   /note= "mouse NGF residues 43-120"
XX
PN   WO9202620-A.
XX
PD   20-FEB-1992.
XX
PF   07-AUG-1991;   91WO-US05610.
XX
PR   08-AUG-1990;   90US-0564929.
XX
PA   (REGE-) REGENERON PHARM INC.
XX
PI   Shooter EM,  Suter U,  Ip N,  Squinto SP,  Furth ME,  Lindsay RM;
PI   Yancopoulous GD;
XX
DR   WPI; 1992-080074/10.
XX
PT   New chimeric neurotrophic factors - useful in treating nervous
PT   conditions caused by trauma, surgery, ischaemia, infection,
PT   metabolic diseases, nutritional deficiency, etc.
XX
PS   Claim 27; Fig 10; 114pp; English.
XX
CC   The sequence is that of a chimeric neurotrophic factor (NF) S4 which
CC   comprises the mouse neurotrophic growth factor (NGF) residues 1-33,
CC   human brain derived growth factor (hBNDF) residues 34-42 and mouse NGF
CC   residues 43-120. It may provide the activity of 2 NFs in a single mol.
CC   or may serve as a superagonist of an endogenous NF thereby enabling an
CC   increased biological response at lower doses. It may also be useful in
CC   targeting an active cpd. to cells responsive to NF. The design of
CC   chimeric Nfs, such as S4, which retain specific biological activity
CC   but which are directed to a subset of factor-responsive cells may
CC   enable treatment of neurological disorders but avoid the complications
CC   of more widespread activity of parent mols. It may be used in the
CC   treatment to eliminate diseased cells, e.g. virus infected cells or
CC   tumours of nervous system origin. It may also be used to treat patients
CC   whose nervous system has been damaged by trauma, surgery, ischemia,
CC   infection (e.g. polio or AIDS), metabolic disease, nutritional
CC   deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
CC   disease, ageing, peripheral neuropathies, Parkinson's disease,
CC   Huntington's chorea or amyotrophic lateral sclerosis. S4 or antibodies
CC   to it can also be used in the diagnosis and study of nervous system
CC   disorders. See also R21851-R21874 and Q22080-Q22131.
XX
SQ   Sequence   120 AA;


  Query Match             51.0%;  Score 372.5;  DB 13;  Length 120;
  Best Local Similarity   55.6%;  Pred. No. 4.4e-35;
  Matches   70;  Conservative   14;  Mismatches   27;  Indels   15;  Gaps    1;

Qy      7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
          | ||:|||||   |||: | |||::|  ||||  | ||| | :| |:|| || | |:
Db      8 hmgefsvcdsvsvwvgdkttatdikggtvtvlekvninnsvfrqyffetkcrasnpv--- 64

Qy     67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                    | |||||::|||||||  ||||:|||: : | |||||||: ||||||
Db     65 -----------esgcrgidskhwnsyctttht fvkalttdekqaawrfiridtacvcvl 112

Qy    127 SRNSWR 132
           || : |
Db    113 srkatr 118


RESULT  14
R21870
ID   R21870 standard; Protein; 120 AA.
XX
AC   R21870;
XX
DT   10-JUN-1992  (first entry)
XX
DE   Chimeric neurotrophic factor S8.
XX
KW   Human BDNF; brain derived neurotrophic factor; NGF;
KW   neurotrophic growth factor; Alzheimer's disease; ageing;
KW   peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW   amyotrophic lateral sclerosis; nervous system disorders.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..68
FT                   /note= "mouse NGF residues 1-68"
FT   Peptide         69..80
FT                   /note= "human BDNF residues 69-80"
FT   Peptide         81..120
FT                   /note= "mouse NGF residues 81-120"
XX
PN   WO9202620-A.
XX
PD   20-FEB-1992.
XX
PF   07-AUG-1991;   91WO-US05610.
XX
PR   08-AUG-1990;   90US-0564929.
XX
PA   (REGE-) REGENERON PHARM INC.
XX
PI   Shooter EM,  Suter U,  Ip N,  Squinto SP,  Furth ME,  Lindsay RM;
PI   Yancopoulous GD;
XX
DR   WPI; 1992-080074/10.
XX
PT   New chimeric neurotrophic factors - useful in treating nervous
PT   conditions caused by trauma, surgery, ischaemia, infection,
PT   metabolic diseases, nutritional deficiency, etc.
XX
PS   Claim 31; Fig 10; 114pp; English.
XX
CC   The sequence is that of a chimeric neurotrophic factor (NF) S8 which
```

```
CC   comprises the mouse neurotrophic growth factor (NGF) residues 1-68,
CC   human brain derived growth factor (hBNDF) residues 69-80 and mouse NGF
CC   residues 81-120. It may provide the activity of 2 NFs in a single mol.
CC   or may serve as a superagonist of an endogenous NF thereby enabling an
CC   increased biological response at lower doses. It may also be useful in
CC   targeting an active cpd. to cells responsive to NF. The design of
CC   chimeric Nfs, such as S8, which retain specific biological activity
CC   but which are directed to a subset of factor-responsive cells may
CC   enable treatment of neurological disorders but avoid the complications
CC   of more widespread activity of parent mols. It may be used in the
CC   treatment to eliminate diseased cells, e.g. virus infected cells or
CC   tumours of nervous system origin. It may also be used to treat patients
CC   whose nervous system has been damaged by trauma, surgery, ischemia,
CC   infection (e.g. polio or AIDS), metabolic disease, nutritional
CC   deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
CC   disease, ageing, peripheral neuropathies, Parkinson's disease,
CC   Huntington's chorea or amyotrophic lateral sclerosis. S8 or antibodies
CC   to it can also be used in the diagnosis and study of nervous system
CC   disorders. See also R21851-R21874 and Q22080-Q22131.
XX
SQ   Sequence   120 AA;

  Query Match             50.5%;  Score 369.5;  DB 13;  Length 120;
  Best Local Similarity   55.6%;  Pred. No. 9.7e-35;
  Matches   70;  Conservative   12;  Mismatches   29;  Indels   15;  Gaps    1;

Qy       7 HRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSKPIGAP 66
           | ||:|||||   |||: | |||::| |||||  | ||| | :| |:|| || | |:
Db       8 hmgefsvcdsvsvwvgdkttatdikgkevtvlaevninnsvfrqyffetkcrasnpv--- 64

Qy      67 KPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAACVCVL 126
                  | |||||  |||| ||  ||||:|||: : | |||||||: ||||||
Db      65 ------------esgcrgidkrhwnsqcttthtfvkalttdekqaawrfiridtacvcvl 112

Qy     127 SRNSWR 132
           || : |
Db     113 srkatr 118


RESULT  15
P91034
ID   P91034 standard; Protein; 118 AA.
XX
AC   P91034;
XX
DT   20-JUL-2000  (revised)
DT   14-DEC-1989  (first entry).
XX
DE   Human nerve growth factor segment.
XX
KW   Human nerve growth factor; fusion protein; thrombin;
KW   geriatric dementia; nervous disorders; human growth hormone.
XX
OS   Homo sapiens.
XX
PN   EP329175-A.
XX
PD   23-AUG-1989.
XX
PF   17-FEB-1989;   89EP-0102795.
XX
PR   19-FEB-1988;   88JP-0035042.
XX
PA   (TOYJ ) TOSOH CORP.
XX
PI   Ohtsuka E;
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DR   WPI; 1989-243092/34.
XX
PT   New human nerve growth factor gene encoding fusion protein
PT   - having cleavage site for thrombin, useful for treating
PT   geriatric dementia, etc.
XX
PS   Claim 5; Page 16; 38pp; English.
XX
CC   Human nerve growth factor (hNGF) segment (see N90577).  The patent
CC   describes a fusion protein formed from nerve growth factor and human
CC   growth hormone and including a thrombin recognition sequence such that
CC   hNGF is released by incubation with thrombin.  hNGF controls
CC   geriatric dementia and nervous disorders.
CC   (Revised entry issued to correct the sequence analysis breakdown.)
XX
SQ   Sequence   118 AA;

  Query Match             50.4%;  Score 368.5;  DB 10;  Length 118;
  Best Local Similarity   54.2%;  Pred. No. 1.2e-34;
  Matches   71;  Conservative   13;  Mismatches   32;  Indels   15;  Gaps    1;

Qy       2 ANDFLHRGEYSVCDSEEHWVGNLTQATDLRGNEVTVLPHVRINNVVKKQMFYETTCRVSK 61
             ::   ||||:|||||   |||: | |||::| || ||  | ||| | || |:|| ||
Db       3 shpifhrgefsvcdsvsvwvgdkttatdikgkevmvlgevninnsvfkqyffetkcrdpn 62

Qy      62 PIGAPKPGQGVSGVKAGTSSCRGIDNEHWNSYCTNVHTFVRALTSYKNQIAWRFIRINAA 121
           |:                | |||||::|||||||  ||||:|||    | |||||||: |
Db      63 pv---------------dsgcrgidskhwnsyctttht fvkaltmdgkqaawrfiridta 107

Qy     122 CVCVLSRNSWR 132
           ||||||| : |
Db     108 cvcvlsrkavr 118


Search completed: October 28, 2000, 18:47:52
Job time: 22156 sec
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